

DESCRIPTIONS OF NINE NEW SPECIES OF BRYO-CORINAE (HEMIPTERA, MIRIDAE).<sup>1</sup>

By HARRY H. KNIGHT, Ames, Iowa.

*Caulatops barberi* n. sp.

Differs from *agavis* Reut. in the uniformly fuscous hemelytra, without violaceous tinge or pale costal margin; membrane and areoles uniformly fuscous, calli and scutellum reddish.

♂. Length 4.5 mm., width 2 mm. Head: width 1.35 mm., vertex .76 mm.; pale to yellowish brown, tylus with fuscous on middle then changing to reddish on apical one-third; frons with an indistinct, arcuate fuscous mark each side of median line. Rostrum, length 1.86 mm., reaching upon middle of venter, the apex of segment II reaching to middle of hind coxae, while the last two segments are much thickened and very short; yellowish to brown. Antennae: segment I, length .43 mm.; II, .98 mm., cylindrical, slightly more slender than segment I; III, missing; color uniformly brownish black, with fine, short pale pubescence. Pronotum: length .74 mm., width at base 1.49 mm.; pale to yellowish brown, calli reddish; calli large, strongly convex, nonpunctate, pale pubescent as on other parts of pronotum; remaining half of disk closely but very finely punctate. Scutellum and meso-scutum reddish (hypodermal), clothed with short pale pubescence; scutellum with impressed line each side starting at basal angle and curving inward and apically, thus dividing the disk into three nearly equal parts.

Hemelytra uniformly fuscous, opaque; membrane pale fuscous, areoles somewhat darker, veins of the same dark color as cuneus and corium; clothed with rather short pale pubescence as on the head, pronotum and body. Legs pale yellowish, posterior face of femora with a few fuscous points, the hind pair becoming darkened with fuscous on apical half; hind tibia and tips of tarsi becoming fuscous. Venter reddish to fuscous, the sternum and pleura more fuscous. Genital segment remarkably developed, the posterior aspect forming a broad basin, the left clasper apparently united with segment wall and forming the ventral edge of this basin, the base of clasper developed into a posteriorly directed horn, the acuminate tip slightly incurved, the inner surface of horn flattened, whitish in color and forming a continuous surface with the hollow basin. Right clasper

<sup>1</sup> Contribution from the Department of Zoology and Entomology, Iowa State College, Ames, Iowa.

greatly developed, forming a broadly curved cylindrical arm which extends across the hollow basin, becoming somewhat more slender apically, the apex with a slight hook which rests on top at base of the horn of left clasper.

*Holotype*: ♂, July 29, 1905, Huachuca Mts., Arizona (H. G. Barber); author's collection. Named in honor of my friend the collector, Mr. H. G. Barber, who is well known for his work on the family Lygaeidae.

***Cyrtocapsus caliginus aureopubescentis* n. var.**

Differs from *caliginus* Stål by the golden, sericeous, almost scale-like pubescence, by the more uniformly black hemelytra, and probably by the deeply impressed points between and on posterior margins of calli.

♀. Length 3.1 mm., width 1.7 mm. Head: width .88 mm., vertex .38 mm.; front transversely striate, the vertex finely and irregularly punctate; median line of front and inner margins of eyes indicated by more thickly set golden, sericeous pubescence, the latero-posterior margin of eye emarginate and fringed with silvery sericeous pubescence; black, the bucculae and lora pale, juga and sides of tylus brownish. Rostrum, length .83 mm., reaching to middle of intermediate coxae, pale yellowish, brownish at tip. Antennae: segment I, length .43 mm., thickness .073 mm., slightly bent, more slender on basal one-third; II, .63 mm., slender at base, gradually becoming thicker apically where it attains the thickness of segment I; III, .48 mm., slightly more slender than apex of segment II; IV, .67 mm., thus longer than segment II, slender; pale to yellowish, segment IV dusky, fuscous at apex; clothed with fine yellowish pubescent hairs, becoming longer and more erect on segment IV.

Pronotum: length .86 mm., width at base 1.36 mm., width at anterior angles .80 mm.; disk strongly convex on basal half, as viewed from normal dorsal aspect sharply declivitous anteriorly; basal margin transverse immediately above the sharply elevated mesoscutum, then slightly sinuate laterally, where a distinct basal impression occurs on disk just before basal angles; disk densely and evenly punctate, the calli also finely punctate, calli prominent, separated by a deep impression, their margins sharply impressed, a foveate depression on basal margin of each and a broader one at outer angles. Scutellum flattened at base but the median apical area distinctly convex; mesoscutum sharply elevated and exposed beneath basal margin of pronotum.

Hemelytra black, opaque; embolium broad, distinctly thickened, and separated from the corium by a deeply impressed line, embolar margins nearly straight along middle then curving inward at apex to meet the distinct fracture and strongly deflexed cuneus; membrane whitish on apical half, basal half fuscous, the veins and areoles black. Dorsum and propleura clothed with golden sericeous, almost scale-like pubescence, the meso- and metapleura and sides of venter clothed with silvery, sericeous pubescence. Thorax and venter black; legs pale to yellowish, middle and posterior coxae becoming fuscous; arolia very similar in form to those of *Sixeonotus insignis* Reut.

*Holotype*: ♀, November 11, 1924, Dunedin, Florida (W. S. Blatchley); author's collection.

#### ***Heterocoris cyaneus* n. sp.**

Distinguished from *dilatatus* Guér.-Mén. by the deep cyaneous metallic color, impunctate scutellum, and relatively longer antennal segments.

♀. Length 5.2 mm., width 2.6 mm. Head: width 1.06 mm., vertex .56 mm.; the width of vertex only equal to little more than twice the transverse dorsal width of an eye; eyes prominent, having an evident outward and backward slant, the latero-posterior margins strongly sinuate. Rostrum, length 1.31 mm., scarcely attaining posterior margins of middle coxae, pale. Antennae: segment I, length .68 mm., greater than width of vertex; II, 1.11 mm., slightly greater than width of head; III, .74 mm.; IV, .46 mm., distinctly more slender than III; pale, segment IV fuscous; pale pubescent. Pronotum: length 1.29 mm., width at base 1.86 mm.; rather densely and strongly punctate, the area in front of calli included; cyaneous, strongly shining. Scutellum impunctate, dull, strongly impressed on base although the median line evidently convex; mesoscutum not exposed.

Clothed with prominent, dense, erect pubescence, which is pale on head, pronotum and venter, but fuscous on hemelytra and scutellum; legs pale pubescent; membrane with apical marginal area of areole and the broad vein distinctly pubescent. Hemelytra impunctate, opaque; embolium broad, arcuate, thickened and broadly reflexed, the cuneal fracture profound, the outer half of base rounded away and not touching the embolium. Membrane brownish black, the large areole included, the broad vein black, exterior to the areole and distad of a line drawn transversely across its apex,

white; the brownish black areas giving a cyaneous or purplish sheen in certain lights.

Color of dorsum distinctly cyaneous, giving purplish reflections in certain lights, pronotum strongly shining, hemelytra and scutellum opaque, but exhibiting the same cyaneous coloration; ventral surface black, legs and rostrum pale.

*Holotype*: ♀, Havana, Cuba (C. F. Baker); author's collection.

*Paratype*: ♀, topotypic; in collection of Mr. W. J. Gerhard, to whom the author is indebted for the type; ♀ March 28, ♀ June 9, 2 ♀ ♀ July 3, 1925, Soledad, Cuba (J. G. Myers and George Salt).

### *Pycnoderes balli* n. sp.

Distinguished by the small size and evenly arched nonlobate pronotal disk; hemelytra nearly as in *quadrifasciatus* Guér. but embolium with pale spot only at apex and the outer edge more thickened, thus not so sharp.

♂. Length 2.5 mm., width 1.2 mm. Head: width .60 mm., vertex .33 mm.; black, shining; vertex, median line, more broadly on lower part of front, and bordering eyes, distinctly punctate. Rostrum, length .57 mm., reaching to middle of mesosternum, pale to dusky, apex and first segment fuscous. Antennae: segment I, length .23 mm.; II, .41 mm.; III, missing; pale. Pronotum: length .76 mm., width at base 1.03 mm.; disk strongly and evenly arched, nonlobate, being without sulcate median line, although a slight yet apparent depression occurs each side near basal angles; coarsely and closely punctate, each puncture bearing a pale decumbent pubescent hair, strongly shining. Scutellum coarsely punctate, covered at base by the overhanging pronotal disk. Hemelytra nearly as in *quadrifasciatus* Guér. but embolar margins not so strongly arcuate, outer edge not sharp, the embolium more nearly of equal width throughout; black, opaque, embolium somewhat shining, with a single small pale spot on apex; very finely pale pubescent. Cuneus pale yellowish translucent, narrowly black on basal angle. Membrane pale, anal area, veins and basal half of areole, fuscous. Thorax and venter black and strongly shining, pale pubescent. Legs pale, anterior aspect of front coxae fuscous, hind femora blackish on apical two-fifths, tarsi and apical one-third of tibiae distinctly yellowish.

*Holotype*: ♂, August 25-30, 1925, Sanford, Florida (E. D. Ball) author's collection; 2 ♂ 1 ♀ April 9, 4 ♂ 2 ♀ May 15, 1926, Sanford, Florida (E. D. Ball). Named in honor of the col-

lector, Dr. E. D. Ball, who kindly presented this and other Florida Mirids.

***Pycnoderes balli obscuratus* n. var.**

Apparently not differing structurally from *balli*, but with antennae and legs chiefly blackish, hind femora pale only at base; vertex with yellowish spot each side next the eye; embolium with obsolete pale spot on apex and a second one near base; cuneus with blackish margins, leaving a large translucent pale spot on its disk; membrane fuscous, although somewhat paler near apical margins.

♂. Length 2.3 mm., width 1.1 mm. Head: width .60 mm., vertex .33 mm. Antennae: segment I, length .23 mm.; II, .45 mm.; III, .44 mm.; IV, .54 mm. Pronotum: length .76 mm., width at base 1.03 mm.

*Type*: ♂, July 28, 1900, Philadelphia, Pennsylvania (W. J. Gerhard); author's collection.

***Pycnoderes medius* n. sp.**

Allied to *dilatatus* Reut., but differs in the smaller size, fuscous membrane, and the broader, more heavily gibbous bilobed pronotal disk; differs from *quadrimaculatus* Guér. and *incurvus* (Dist.) by the sharp outer edge of the embolium.

♂. Length 2.9 mm., width 1.37 mm. Head: width .63 mm., vertex .37 mm.; black, juga and lora more brownish. Rostrum, length .67 mm., reaching hind margin of mesosternum. Antennae: segment I, length .27 mm.; II, .60 mm.; III, .57 mm.; IV, .68 mm.; pale, segment IV fuscous.

Punctuation, pubescence, and coloration nearly as in *dilatatus* Reut. but hemelytra not so broadly dilated; the apical pale spot on embolium sometimes nearly obsolete. Membrane and veins distinctly fuscous, darker at base and on veins, apical margins paler and more brownish. Legs pale, front coxae except apex, and apical half of femora fuscous to blackish.

♀. Length 2.8 mm., width 1.36 mm.; very similar to the male in form and coloration.

*Holotype*: ♂, July 22, 1916, Hollister, Missouri (H. H. Knight); author's collection. *Allotype*: same data as the type. *Paratypes*: 10 ♂, 23 ♀, taken with the types. ♂, July, 1915, Clarksville, Tennessee (G. G. Ainslie). ♀, September 15, 1921, Leland, Mississippi (C. J. Drake).

***Pycnoderes drakei* n. sp.**

Closely allied to *medius* but the scutellum distinctly flatter and exposed at base; pronotum higher and more deeply bilobed, and punctuation of disk somewhat finer; membrane more heavily and uniformly fuscous, but with clear area in apical half of areole bordering cuneus. Suggestive of *incurvus* (Dist.) in the high bilobed pronotum, but distinguished at once by the sharp edge of the embolium.

♀. Length 2.9 mm., width 1.4 mm. Head: width .63 mm., vertex .33 mm. Rostrum, length .71 mm., reaching to middle of intermediate coxae. Antennae: segment I, length .28 mm.; II, .56 mm.; III, .60 mm.; IV, .71 mm.; pale, segment IV dusky. Pronotum: length .83 mm., width at base 1.09 mm.

Coloration nearly as in *medius* but differs as follows: head yellowish brown, vertex and median line of front black, bordering lower edge of eyes and the convex portion of tylus blackish; embolium with much larger pale spot on basal half, the apical spot obsolete; membrane more uniformly dark fuscous, not distinctly brownish on apical area; apical half of areole with large clear spot bordering the clear cuneus; base of cuneus not invaded by black from corium; the embolium apparently broader and more suggestive of *dilatatus* Reut.

*Holotype*: ♀, June 26, 1921, Aberdeen, Mississippi (C. J. Drake); author's collection.

***Pycnoderes infuscatus* n. sp.**

Allied to *dilatatus* Reuter, but size larger; distinguished by the longer antennal segment II which exceeds width of head, and by the fuscous membrane.

♂. Length 4 mm., width 2.4 mm. Head: width .71 mm., vertex .40 mm.; eyes smaller than in *dilatatus* and head more produced, space between lower margin of eye and tip of tylus distinctly greater than height of an eye. Rostrum, length 1 mm., reaching to middle of intermediate coxae. Antennae: segment I, length .34 mm.; II, .78 mm.; III, missing; pale, apical half of segment II fuscous. Pronotum: length 1.16 mm., width at base 1.46 mm.; disk more broadly gibbous than in *dilatatus* and median line not so deeply impressed; apex of scutellum more depressed but basally more sharply convex than in *dilatatus*. Hemelytra nearly as in *dilatatus*, but membrane fusco-brownish, veins and basal area blackish.

Legs pale to yellowish, femora and front coxae blackish, bases of femora pale, the hind pair with apical half only blackish.

*Holotype*: ♂, July 14–August 5, 1912, Black Mountains, North Carolina (Beutenmuller); Cornell University collection.

***Sixeonotus albohirtus* n. sp.**

More elongate than *tenebrosus* (Dist.); black, clothed with prominent, suberect, moderately dense, white pubescent hairs.

♀. Length 2.6 mm., width 1.17 mm. Head: width .71 mm., vertex .41 mm. Rostrum, length .64 mm., just attaining hind margin of sternum. Antennae: segment I, length .21 mm.; II, .37 mm.; III, missing; black, white pubescent. Pronotum: length .80 mm., width at base 1.11 mm.; disk punctate and convex much as in *tenebrosus* but more elongate and not so wide. Scutellum fully exposed, moderately convex, punctures finer than those of pronotum. Hemelytra moderately shining, clothed like other parts of the body, with rather long, moderately dense, suberect, white pubescent hairs. Membrane dark fuscous, somewhat paler on middle between the apices of areoles, veins black and bearing evident, fine short pubescence. Wholly black except trochanters, apices of coxae, and first two segments of tarsi which are pale.

*Holotype*: ♀, August 25–30, 1925, Sanford, Florida (E. D. Ball); author's collection.

***Sixeonotus brevis* n. sp.**

Allied to *tenebrosus* (Dist.), but distinguished by the flatter and more elongate pronotum, broadly exposed scutellum, abbreviated membrane, and pale yellowish legs.

♀. Length 2.3 mm., width 1.3 mm. Head: width .70 mm., vertex .43 mm.; frons more prominent and base of tylus more deeply incised than in *tenebrosus*; black, narrowly pale bordering eyes above, juga brownish, darker at base. Rostrum: length .60 mm., attaining hind margin of sternum, pale, epipharynx and apex blackish. Antennae: segment I, length .20 mm.; II, .40 mm.; III, missing; black, finely pale pubescent. Pronotum: length .74 mm., width at base .97 mm.; disk strongly flattened on anterior half, lateral margins distinctly sulcate although broadly rounded at basal angles, basal margin sulcate at median line and scarcely covering base of scutellum; disk coarsely punctate much as

in *tenebrosus*. Scutellum rather flat, with several coarse punctures on basal half. Black; hemelytra clothed with prominent, erect, pale yellowish pubescence, similar to that on head and pronotum; embolar margins more strongly arcuate on apical half than in *tenebrosus*; membrane abbreviated, extending beyond cuneus for a space equal to its length, rather uniformly pale fuscous, veins black. Legs uniformly pale yellowish, pale pubescent.

*Holotype*: ♀, August 10, 1921, Hattiesburg, Mississippi (C. J. Drake); author's collection.

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### ON SOME HETEROPTERA FROM THE CANAL ZONE, COLLECTED BY DR. J. G. SANDERS.

By J. R. DE LA TORRE-BUENO, White Plains, N. Y.

These few bugs are from the collection of the Bureau of Plant Industry, Harrisburg, Pa., and were submitted to me for determination. They are here set forth for the purpose of recording the new localities for distributional studies.

*Limnometra opaca* Champ.

Two from Gamboa; a common species recorded by Champion from Bugaba.

*Montina nigripes* Stål.

Panamá—A species reported from Chiriqui and Colon in *Biologia Centrali Americana*.

*Sinea caudata* Champ.

Gamboa, 16. II. 21.—Described from the Isthmus.

*Madura perfida* Stål.

Alajuela, 2. II. 21—A species which seems not to have been reported from the Isthmus of Panama.

*Hypselonotus atratus* Fabr.

Gamboa, 14. II. 21—A long series.

*Dysdercus obliquus* H. S.

Panamá, whence it has been previously reported.

*D. concinnus* Stål.

Alajuela, Panamá, 11 II. 21—Seems not to have been reported thence.

*Corizus sidae* Fabr.

Gamboa, 31. I. 12—The common Tropical American and Antillean form.